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DON MEADOWS, NEARLY FORGOTTEN AS A LEPIDOPTERIST

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ABSTRACT. Don Meadows was the first lepidopterist to collect extensively on any of the California Channel Islands, when he lived on Santa Catalina during 1927-1934. He published annotated lists of the butterflies, sphingids, and tiger moths of the island, and he collected more than 260 species from Catalina, the most comprehensive survey of Lepidoptera for any site in California at that time. Meadows is credited with having proposed the Channel Islands Biological Survey of the Los Angeles County Museum, and he supervised the initial 1939-40 expeditions. He published several papers, including new taxa from the islands, and at least three patronyms were proposed in his honor. However, by the late 1940's his interest in insects had waned; in 1950 he sold his collection to the Smithsonian Institution, and he disappeared as a lepidopterist. During the subsequent 44 years Don Meadows became an acclaimed historian and bibliophile of southern California, published several books and numerous articles, and was the subject of two booklets of tributes from admirers, none of whom cared about of his life as a lepidopterist.

Additional key words: island biogeography, microlepidoptera

Anyone who studies Lepidoptera of southern California, and particularly its Channel Islands, soon comes across the name of Don Meadows. He published several papers on Lepidoptera, proposed new taxa, had patronyms named in his honor, and was an organizer of

and participant on the 1939-41 Los Angeles County Museum Biological Survey expeditions. Yet his name does not appear in major bibliographies of biographies of entomologists (e.g., Gilbert 1977), nor is there any mention of him in the lepidopterists' biographies/



Personnel aboard the California Fish and Game Commission Patrol Boat "Bluefin", at the start of the Third Expedition of the Los Angeles County Museum-Channel Islands Biological Survey, Long Beach Harbor, California, July 21, 1939. This expedition included a week of work on each of four islands. Left to right: George Kanakoff, invertebrate zoologist; Jewell Lewis; Don Meadows, Expedition leader; Capt. Walter Engelke; C. H. Groat, Supervising Fish Warden; Russell Sprong; Arthur Woodward, archaeologist; M. B. Dunkle, botanist; Lloyd Martin, entomologist; Jack von Bloeker, mammologist [*Long Beach Sun* Photo]

bibliographies or deposition of collections compiled for the 25th year Commemorative Volume of The Lepidopterists' Society (Kendall *et al.* 1977). Indeed, he is not even mentioned in Orsak's *Butterflies of Orange County* (1977), where he had collected extensively as a youth.

I was amazed and chagrined to learn only recently that Don Meadows had been a well known author and historian living in Orange County until the mid 1950s, decades after I began compiling records of his work on the Channel Islands. He and his wife, Frances, lived in the hills overlooking the Santa Ana Valley, virtually within sight of the Santa Ana Freeway, which I traversed many times, yet I never met him. Meadows was a man of many interests and talents, and was widely known and respected for research and teaching carried out after leaving his Lepidoptera interests behind. Much of the following story is gleaned from a volume of tributes written in the 1970s by friends who knew him as a historian and bibliophile, less so as a naturalist, published by the Friends of the Library, University of California, Irvine (Heiskell 1982) and from a summary of his life published by friends when he died (Bigandi 1995).

Donald Charles Meadows was born in 1897 in Indiana, where his father, Charles W. Meadows, was employed by a local newspaper. After visiting relatives in California, the senior Meadows moved the family there in 1903, when Donald was five years old. They settled in the town of Orange, where Don's interest in California history is said to have begun after a visit to the Spanish mission ruins at San Juan Capistrano when he was 10 years old, and in natural history at about the same time. He collected insects, particularly butterflies and moths, and learned to identify the local birds as a young boy. He was educated in Orange County public schools, and at Pomona College, where he studied under William Hilton and Phillip Munz and obtained a degree in biology in 1922, after spending time in the Navy during WW I. Don began to collect books and other historical literature on California and Baja California while a college student, a passion that continued for the rest of his life.

After graduation, Meadows worked for a newspaper in Long Beach until 1925, then took a teaching position in the Long Beach public schools, first in junior high, where he met his wife, Frances, a librarian at the school. After two years he conceived the idea of doing a biological survey of Santa Catalina Island, which recently had been taken into the Long Beach school system, and Don requested a transfer to Avalon High School. During their residency there, 1927 to 1934, the

Meadows built a home overlooking Avalon but returned to the mainland for the summer months. Meadows surveyed diurnal Lepidoptera extensively over the island, and collected moths at lights primarily at Avalon. During the first three seasons, and especially 1929-30, Don collected moths at lights of the Club House, which was located on Country Club Drive at the mouth of Avalon Canyon.

In 1930-31, at the height of the great depression, Don took a leave of absence from his teaching position in order to complete a M.S. degree in Entomology, with the hope of obtaining a position teaching zoology at Santa Ana Junior College. He moved with his family to Berkeley to complete the degree at University of California. He conducted his thesis research under the direction of H. B. Herms, a medical entomologist, on the biology and ecology of a salt marsh-inhabiting horsefly (Meadows 1931). The fly had been misidentified as *Tabanus gilanus* Townsend, an Arizona species, but Meadows' voucher specimens were later determined to be *T. laticeps* Hine, and his detailed study is cited as such (Middlekauff and Lane 1980). The thesis research failed to convert Don to a dipterist, but the experience at Berkeley had a profound effect on him as a lepidopterist. Evidently he was inspired by his association with faculty, including E. O. Essig and E. C. Van Dyke, and students, Harry Lange, Gort Linsley, Bob Usinger, and Bob Wind, among others, to broaden and increase his survey efforts on Catalina Island. In March Meadows expanded his collecting repertoire by designing a light trap, an incandescent bulb hung over a 9-inch funnel (sketch in his field notebook), which he deployed outside a window on the top floor of Agriculture Hall on campus, and for the first time lists of species in his notebook began to include microlepis. Probably he was influenced by H. H. Keifer, as that was during Keifer's active period of research with microlepidoptera, working in Sacramento (Powell 1990), and Meadows' notebook entries mention identification of his specimens by Keifer. Immediately upon his return to Catalina Meadows began to inventory by light trapping in a canyon back of the high school, resulting in a dramatic increase in the numbers of collection records and species compared to his efforts

TABLE 1. Numbers of species and date records for moths collected by Don Meadows on Santa Catalina Island, 1927-1934 (LACM, USNM; excludes Sphingidae, Catocala)

	Sept. 1927- May 1930		Sept 1931- May 1934	
	species	records	species	records
Microlep	2	2	~70	<200
Pyaloid	5	5	<35	<180
Macromoth	48	90	<133	<790

in 1927–30 (Table 1). Also, in 1932–1933, he enlisted one of his 8th grade students, Noel Turner, to run a light trap at Middle Ranch, where he lived, located at 650 ft. elevation on the Pacific side of the island.

Entries in his field note books (which for the Catalina years are housed in the archives of the Santa Barbara Natural History Museum, SBNHM) include many lists of birds and butterflies, notes on macromoth larvae, etc., from various parts of the island and provide glimpses of his moth sampling. For example, in late September to November, 1929, he collected at the Club House lights on 20 dates, recording lists of macros and on Sept. 14 “a great many silver lined crambid moths” [*Crambus occidentalis* Grote], Sept 20 “33 [specimens] nice stuff,” Oct. 23 “54 specimens”, and on Feb. 7, 1930 “8 geos, 4 noctuids, two of the beautiful flecked green variety” [38 years later named *Feralia medowsi* Buckett]. After the light trapping program began, Meadows did not record species names and specimen numbers and evidently limited his collections by time available for spreading, as Sept. 18/19, 1932: “Collection fine, 2 or 3 hundred micros and about 100 noctuids, only 50 specimens saved, mostly the noctuids, no time to mount them all.” On June 10, 1932, he counted the Catalina collection, 2,375 specimens, including 90+ butterflies, 602 Noctuidae, 475 Geometridae, 367 Pyralidae, 46 Tortricidae, 416 micros.

Meadows was the first to collect microlepidoptera on any of the islands, and several species have been new to science, named from his specimens. In total he accumulated more than 400 records for 100+ species of micros and pyraloids, all represented by nicely spread specimens. He was featured in a newspaper article as the ‘Moth Man of Catalina’, which stated that he had captured more than 400 different species, many of them new to entomology (Los Angeles Times, Sunday Magazine, Feb. 16, 1933, Buckett 1968). That number was optimistic, but I have recovered records in the National Museum of Natural History (USNM) and Los Angeles County Museum of Natural History (LACM) of about 260 species, the most comprehensive local inventory of Lepidoptera in California up to that time.

After the Catalina experience, Meadows returned to Long Beach and taught high school biology for the remainder of his career. He published several notes on the birds of the island, two papers on the butterflies, sphingids, and arctiids (Meadows 1936, 1939), and compiled an annotated list of 160 species of macrolepidoptera (1943, unpublished). More influential than his Catalina survey, Don Meadows is credited by Comstock (1939) as having initiated a proposal to the authorities of the LACM for a biological survey of all the Channel Islands. Whereas beetles and some other

insects, in addition to vertebrates and plants, had been collected on the islands in the late 1800s and early 1900s, exceedingly few Lepidoptera were known other than from Catalina after the resort town of Avalon was established in 1887. A five-year project was approved by the Board of Directors in December 1938, and trips began in February 1939. Meadows acted as field supervisor on the first five of the expeditions in 1939–40. He worked on six of the islands, along with other lepidopterists, Lloyd Martin and Chris Henne, one or both of whom took part in most of the trips. Altogether 13 expeditions were conducted, visiting each of the eight islands at least twice before the last trip was abruptly terminated in December 1941 by the bombing of Pearl Harbor (Comstock 1946).

Meadows (1943a) estimated that 40,000 insect specimens were collected, of which about 5,000 were Lepidoptera. Thus the 1939–41 LACM expeditions laid the foundation for all subsequent inventory of insects, and Meadows’ visionary proposal was a pivotal event in the development of our knowledge of the insects of the California Channel Islands. According to his son, Don hoped to use his Channel Islands study of Lepidoptera as the basis for a Ph.D. thesis, and in 1940–42 he approached both the University of Southern California and University of California, Los Angeles, regarding prospects of such a project. However, the required residency and course work could not be arranged while maintaining his full time teaching position.

During that following decade, Meadows described a noctuid from San Clemente Island (1942) and published articles on butterflies (1943b) and biology, and attempted to identify the moths from the 1939–41 expeditions. His ms draft lists of Catalina and Channel Island macrolepidoptera (1943a) indicated plans to publish lists, but evidently he tried to identify all the species without seeking assistance from specialists, and the project bogged down. During four summers following WW II Don worked as a park ranger and naturalist at Big Basin State Park in the Santa Cruz Mountains, California, and wrote an extensive handbook on the history and biology of the park (Meadows 1950), which included lists of the butterflies (25 species) and a few moths, and mentioned more than 60 species of moths had been collected in the park.

However, by about that time his interest in Lepidoptera and natural history had waned, probably in part because he had been unable to pursue further graduate studies, and he may have felt he could not do justice to two compelling avocations. He sold his private collection of insects to the Smithsonian in 1950 (Clarke 1974). It contained about 10,000 specimens and included butterflies, macrolepidoptera, and pyraloids

from southwestern United States, in addition to its emphasis on Catalina Island, as well as some of the specimens he collected on the Channel Islands expeditions to other islands. Curiously, all of his microlepidoptera went to the LACM, and I was unable to find any archival record as to why this division was made. Although Don had been a member of the Lorquin Society in Los Angeles, he evidently dropped out of contact with other lepidopterists by the time the Lepidopterists' Society was founded in 1947. His decision was finite; there was virtually no contact with lepidopterists or the LACM after 1950. In correspondence as late as 1952 he said he was working on a book on the natural history of the islands, but that project did not come to fruition.

Meadows' decision was biologists' and lepidopterists' loss, and historians' gain. Thereafter he increasingly wrote and lectured on California and Baja California history, particularly of Orange County and the Spanish Missions era, and published about 50 articles and books between 1951 and 1980, in addition to 31 reviews of books on history and travel in the southwest, especially Baja California (F. Meadows 1980). He taught California history in night school at Orange Coast College in Santa Ana before retirement in 1960. The Meadows historical library grew to more than 4,000 volumes and enormous numbers of pamphlets, manuscripts, and other ephemera, probably the best collection of southern Californiana ever assembled. The Meadows library was purchased by The University of California, Irvine, in 1972, through a grant from the University's contingency funds administered by President Hitch, and is held intact—all well indexed and available in the UCI archives—the Meadows papers alone occupy 90 linear feet of shelf space (Gibson 1995).

Don Meadows and his wife moved to Yuba City, California, in 1955, to be near his son and family, where she died in 1989 at the age of 90, and he in November 1994, two months into his 98th year, and nearly half a century after his days as a lepidopterist had ended. His life was celebrated in two collections of tributes written by 24 friends and admirers, the first published by the Friends of the U.C. Irvine Library (Heiskell 1980), and the second as a memorial after his passing was published privately by friends in Orange County (Brigandi 1995). He is acclaimed as a historian and researcher, bibliophile, outstanding teacher, professional writer and a friend, confidant, critic, and mentor to a diverse group of admirers, none of whom had any appreciation of his contributions as a lepidopterist.

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- of moths had been collected in the park]
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APPENDIX

Taxa described by Don Meadows:

Anthocaris cethura catalina Meadows, 1937
Hemihyalea edwardsii ochrous Meadows, 1939
Zosteropoda clementei Meadows, 1942

Patronyms:

Arachnis picta meadowsi Comstock, 1942
Scricosema wilsonensis meadowsaria Sperry, 1948
Feralia meadowsi Buckett, 1968

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